Federally Funded Research and Development Center

Rationale: A Federally Funded Research and Development Center (FFRDC) would bring together the expertise and outlook of government, industry, and academia to solve the complex managerial and technical issues associated with the optimum use of the ISS. Because of the FFRDCs ability to be composed of diverse groups and skills it is in a position to best represent the unique needs of the science, technology, and commercialization (S/T/C) communities that cannot be solved by any one group alone. Working in the public interest, an FFRDC would operate as a strategic partner with NASA and potentially other federal agencies in order to ensure the maximum utilization of ISS to support future national goals and objectives.

In order to ensure the highest levels of objectivity and technical excellence, an FFRDC for ISS Utilization Management would be organized as an independent, not-for-profit entity, with certain limitations and restrictions on their activities as outlined below. This special standing coupled with the limitation on their activities permits a degree of access and long-term perspective not able to be shared by commercial contractors. The FFRDC for ISS Utilization Management has been structured to include the leadership and support of key functional capabilities required to meet identified user community issues and concerns. Finally, an FFRDC partnered with NASA for ISS Utilization Management would ensure that future use of the ISS to support NASA Human and Robotic science exploration requirements would be guarantied.

End - State Description: In order to manage and represent the users in all aspects of S/T/C utilization, the functions shown below have nominally been allocated to the FFRDC. Further assessment of the FFRDC option with regards to NASA core competency, facility, and human capital considerations may modify this identified set of functional capabilities.

- Strategic/Tactical functions: The FFRDC will be a member of the SSUB, will support the annual NASA utilization budget development activity, will support development of Agency research plans related to ISS utilization, and will lead the management of ISS research programs and integrated research utilization.

- S/T/C Leadership functions: The FFRDC will have the authority and responsibility to manage the selection process and prioritization with NASA retaining final selection authority. In addition, the FFRDC will work with the S/T/C communities to build an integrated voice to support a more effective advocacy of ISS utilization. The FFRDC will lead the following activities: manifesting and allocation of ISS resources, educating and out reach to the public, recommendation of user needs to support pre-planned product improvements to enhance ISS utilization, and the management of archival research samples, data, and results.

- Payload Development (PD) functions: NASA Centers currently associated with discipline specific payload development would retain the majority of the resources (FTEs and funding) associated with PD in order to retain key Agency competencies. The FFRDC would create an office specifically to support customer integration and operations for the purpose of aiding users in bringing their payloads to ISS.

- Maintaining and Sustaining Flight Research functions: The FFRDC would assume the responsibility for maintaining and sustaining existing facilities in order to best support the

utilization of ISS. By assuming leadership of these functions, the FFRDC would be able to provide a continuity of expertise associated with existing facilities to allow for optimum re-flight and enhancements required for future application.

- Operational functions: The FFRDC would assume the lead for ISS management and integrating user missions, both analytical and operational. NASA would retain the responsibility and authority associated with ISS utilization required to perform those functions specific to interfacing with the ISS vehicle. Additionally, the FFRDC will take the lead for developing new ground systems while maintaining and sustaining existing ground systems.

Key Aspects:

- The FFRDC would most likely be operated by a university or consortium of universities on a nonprofit or not-for-profit basis.

- The FFRDC requires a specific purpose or mission as part of a sponsoring agreement with NASA. The FFRDC cannot perform work outside of its mission statement.

- The FFRDC is specifically exempted from competition. This enables the FFRDC to establish a long-term relationship with NASA that would allows the FFRDC to retain highly qualified personnel, preserve its familiarity with the needs of NASA, and to provide a quick response capability.

- Every five years NASA will review the FFRDC to determine whether the mission and purpose for the FFRDC still exists. If the mission and/or purpose for the FFRDC cannot be demonstrated, potentially due to changing roles for the ISS, NASA would have the capability to smoothly transition out of the FFRDC relationship.

- The FFRDC cannot compete against the private sector, but can contract with the private sector for goods and services necessary to meet its mission or purpose. It is assumed that the FFRDC would subcontract for those efforts currently being performed under contract to NASA in the areas of operations and hardware maintenance.

- The FFRDC has the authority to obtain funding from other government agencies and from the private sector consistent with its stated mission or purpose.

- Enjoys a “special relationship” with NASA through access to sensitive and proprietary data, and to Government employees and facilities. This partnership type arrangement would enable the FFRDC to participate at all levels of NASA (e.g., SSUB) and to partner with the associated NASA Centers utilizing ISS.

- The intent of the FFRDC is to manage the utilization of the ISS. To this end, the FFRDC will not be involved in “hands on” research especially given the limited research opportunities, highly diverse nature of the ISS user community, and most importantly to prevent organizational conflicts of interest.

- Since the FFRDC has the capability to effectively interact with science, technology, and commercial entities, it will be ideal for serving as a single point of entry for this broad user community.

- The FFRDC would utilize Inter-Agency Personnel Agreements (IPAs) for key positions to ensure that trust is established between NASA and a new FFRDC for those areas that interface with the ISS Vehicle and are related to safety and CoFR activities. Additionally, the FFRDC would use IPAs to fill those positions that provide PDs with integration and operations support.

Strengths and Weaknesses: Table 1 below identifies strengths and weakness associated with the functional allocation nominally given to the FFRDC model as articulated in the sections above.

Strengthens	**Weaknesses**
1. NASA has the capability to quickly transition to an FFRDC for ISS Utilization Management as no new authority is needed for establishment. 2. The FFRDC would bring together the expertise and outlook of government, industry, and academia to solve utilization issues that cannot be solved by any one group alone. This would result in the FFRDC being an excellent advocate for the entire S/T/C user community. 3. The FFRDC as envisioned contains built in protections for organizational conflicts of interest. 4. With the "special relationship" granted under the Federal Acquisition Regulations, the FFRDC would partner with the Centers to enhance and standardize payload development, maintain and sustain existing payload facilities, and provide tactical utilization leadership positioning it to provide strategic planning support at the highest levels. 5. The FFRDC would encompass all of the functions necessary to most effectively represent the entire, broad user community while providing a single point of entry for users into the ISS utilization process.	1. The creation of an FFRDC has the potential to result in additional interfaces with NASA. 2. FFRDCs have been disfavored because of the potential for abuse due to the sole source nature and the special relationship with sponsoring agency. 3. The FFRDC cannot perform inherently governmental functions such as negotiating barter agreement with our International Partners. However, the FFRDC would be in a strong position to implement existing agreements. 4. The cost associated with transitioning expertise from inside NASA to an FFRDC is uncertain and may be more expensive because FFRDC is not subject to federal pay schedule. 5. The Limitation on the FFRDC to conduct research is perceived as hindering their ability to attract the best and brightest. This restriction, which offsets potential conflict of interests relative to selection, needs to be vetted by academia and industry via an RFI.

Table 1. FFRDC Option Strengths and Weaknesses.

Transition Strategy: The figure below illustrates a proposed transition strategy for the FFRDC as currently defined. The functions that the FFRDC leads are shown in solid green above the horizontal double-line. The remaining functions above the horizontal double-line are supported by the FFRDC including support to portions of certain inherently/appropriately activities. Other functions that remain with NASA are shown on the bottom portion of the graphic.

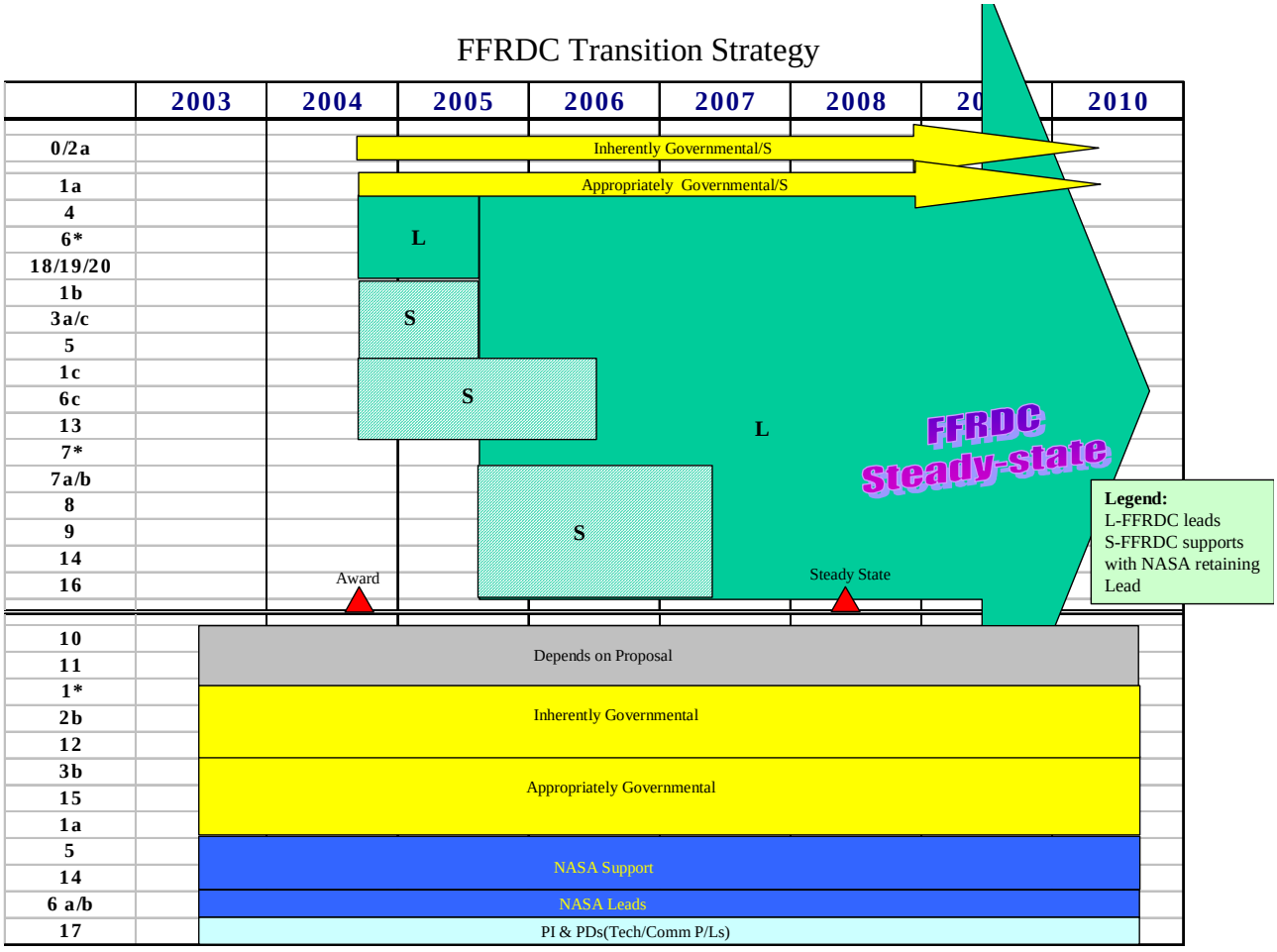

Figure 1. Transition schedule for an FFRDC ISS Utilization Management option.